This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A device for generating specific and selective signals for application to a capacitive coupling and/or inductive coupling device for the generation of selective electric or electromagnetic fields in defective or diseased tissue in a human knee joint for the treatment of the defective or diseased tissue ~~in a human knee joint~~, comprising:

a signal generator that generates compound electric signals that selectively up-regulate at least one of Aggrecan gene expression and Type II Collagen gene expression and selectively down-regulates metalloprotease gene expression, said compound electric signals comprising respective signals each having a given duration, amplitude, frequency and duty cycle that is selective for regulating Aggrecan, Type II Collagen and/or metalloprotease gene expression; and

means for communicating said compound electric signals to said capacitive and/or inductive coupling device.

2. (Original) A device as in claim 1, wherein said compound electric signals comprise a 60 kHz sine wave having a peak to peak voltage of approximately 4.6 V to 7.6 V.

3. (Original) A device as in claim 2, wherein said compound electric signals comprise a 100% duty cycle signal that is generated for approximately 30 minutes and a 50% duty cycle signal that is generated for approximately 1 hour after said 100% duty cycle signal.

4. (Original) A device as in claim 3, wherein said signal generator further generates during a 24 hour time period at least one additional 50% duty cycle signal having a duration of approximately 1 hour.

5. (Original) A device as in claim 4, wherein said signal generator is selectable into at least three modes, a first mode for generating during a 24 hour time period said compound electric signal and three of said additional 50% duty cycle signals, a second mode for generating during a 24 hour time period said compound electric signal and two of said

additional 50% duty cycle signals, and a third mode for generating during a 24 hour time period said compound electric signal and one of said additional 50% duty cycle signals.

6. (Original) A device as in claim 5, wherein said signal generator comprises a switch that may be manually or automatically switched to switch said signal generator into different modes.

7. (Original) A device as in claim 1, further comprising means for holding said signal generator in proximity of a patient for communication with said capacitive and/or inductive coupling device.

8. (Original) A device as in claim 7, wherein said holding means comprises a Velcro™ strap that holds said signal generator to one of a patient's leg and a knee wrap.

9. (Original) A device as in claim 7, wherein said holding means comprises a pocket in one of a knee wrap and leg wrap.

10. (Original) A device as in claim 7, wherein said holding means comprises one of a pocket and a holster worn at the patient's waist.

11. (Original) A device as in claim 1, wherein said communicating means comprises one of an electric lead and a wireless connection.

12. (Original) A device as in claim 1, wherein said signal generator comprises a microcontroller responsive to time of day data to selectively generate said compound electric signals at predetermined treatment times.

13. (Canceled)

14. (Original) A device as in claim 1, wherein said signal generator is selectable to generate said compound electric signal at different voltages in accordance with a circumference of a patient's knee.

15 - 18. (Canceled)

19. (New) A device for generating specific and selective signals for application to a capacitive coupling and/or inductive coupling device for the generation of selective electric or electromagnetic fields in defective or diseased tissue for the treatment of cancer and in the prevention of metastases in cancer in the defective or diseased tissue, comprising:

a signal generator that generates compound electric signals that selectively up-regulate at least one of Aggrecan gene expression and Type II Collagen gene expression and selectively down-regulates the gene expression of metalloproteases and other proteases in the treatment of cancer and in the prevention of metastases in cancer, said compound electric signals comprising respective signals each having a given duration, amplitude, frequency and duty cycle that is selective for regulating Aggrecan, Type II Collagen, metalloprotease and/or protease gene expression; and

means for communicating said compound electric signals to said capacitive and/or inductive coupling device.